

Cal/Ecotox

Toxicity Data for Mourning Dove (*Zenaida macroura*)*

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Chemical	Tox Exposure	Endpoint Type	Endpoint Description	Endpoint Value	Note	Reference
ACEPHATE; CARBARYL; DIAZINON	601 ppm acephate, 1196 ppm carbaryl, or 598 ppm diazinon application rates	TOX-EXP IND - biomarkers	brain cholinesterase activity	no effect	a	1
ACEPHATE; CARBARYL; DIAZINON	601 ppm acephate, 1196 ppm carbaryl, or 598 ppm diazinon application rates	TOX-REPRO - reproductive success	percent nest success, eggs hatched, and nestlings fledged	no effect	b	1
ALDICARB	0, 0.48, 0.55, 0.83 mg/kg bw	TOX-MORT - mortality in the field	daily survival rate in dosed wild birds	no effect	c	2
ALDICARB	0.66, 0.74, 0.82, 0.90, 1.02, 1.10, 1.22, 1.40 mg/kg bw	TOX-MORT - toxicity benchmarks	LD50	0.82	d	2
ALDRIN	NR	TOX-MORT - toxicity benchmarks	median lethal dosage	15-17 mg/kg	e	3
ALDRIN; DIELDRIN	4 oz aldrin/100 lbs seeds	TOX-EXP IND - accumulation	post-mortem concentrations	6.1 ppm (brain), 10.7 ppm (body remainder) dieldrin, wet wt	f	4
ALDRIN; DIELDRIN	4 oz aldrin/100 lbs seeds	TOX-EXP IND - accumulation	post-mortem whole body concentrations	<0.1 ppm aldrin, 3.8 ppm dieldrin, 0.3 ppm DDT and metabolites, wet wt	g	4
AMINOPYRIDINE (4-)	0, 31.6, 100, 316 ppm 4-aminopyridine in diet	TOX-MORT - dose-response data	dietary LC50	316 ppm	h	5
AMINOPYRIDINE (4-)	150, 300, 600, 1,000 ppm 4-aminopyridine in corn bait	TOX-MORT - dose-response data	dose at which 50% mortality was observed	150 ppm	i	5
AROCLOR 1254	0 or 40 ppm in diet	TOX-Non-Repro-Sublethal - whole animal	body temperature at a range of ambient temperatures	decreased at 40 ppm	j	6
AROCLOR 1254	0 or 40 ppm in diet	TOX-Non-Repro-Sublethal - whole animal	body weight	no effect	k	6
AROCLOR 1254	0 or 40 ppm in diet	TOX-Non-Repro-Sublethal - whole animal	metabolic rate at a range of ambient temperatures	no effect	l	6
AROCLOR 1254	0, 10, 40 ppm in diet	TOX-REPRO - behavior	courtship behavior score (intensity)	decreased at 40 ppm	m	7
AROCLOR 1254	0, or 10 ppm in diet	TOX-REPRO - behavior	interval from nest occupation to egg-laying	increased at 10 ppm	n	8
AROCLOR 1254	0, 10, 40 ppm in diet	TOX-REPRO - behavior	length of courtship period	increased at 10, 40 ppm	o	7
AROCLOR 1254	0, 10, 40 ppm in diet	TOX-REPRO - behavior	number of pairs nesting	decreased at 10, 40 ppm	p	7
AROCLOR 1254	0, 10, 40 ppm in diet	TOX-REPRO - behavior	onset of nest initiation	delayed at 10 ppm	q	7
AROCLOR 1254	0, or 10 ppm in diet	TOX-REPRO - physiology	percent of birds that laid eggs	decreased at 10 ppm	r	8
AROCLOR 1254	0, or 10 ppm in diet	TOX-REPRO - physiology	progesterone concentration in blood	no effect	s	8
AROCLOR 1254	0, or 10 ppm in diet	TOX-REPRO - physiology	timing of peak progesterone concentration in blood	earlier @ 10 ppm	t	8
AZINPHOS-METHYL (GUTHION); DIMETHOATE; ENDOSULFAN; METHYLPARATHION; PARATHION; PERMETHRIN; THIRAM; ZIRAM	organic or conventional pest management (standard application rates)	TOX-MORT - mortality in the field	daily survival rates	decreased in conventional orchards	u	9

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AZINPHOS-METHYL (GUTHION); DIMETHOATE; ENDOSULFAN; METHYLPARATHION; PARATHION; PERMETHRIN; THIRAM; ZIRAM	organic or conventional pest management (standard application rates)	TOX-REPRO - reproductive success	hatching success	decreased in conventional orchards	v	9
AZINPHOS-METHYL (GUTHION); DIMETHOATE; ENDOSULFAN; METHYLPARATHION; PARATHION; PERMETHRIN; THIRAM; ZIRAM	organic or conventional pest management (standard application rates)	TOX-REPRO - reproductive success	numbers of eggs laid or number of fledglings produced	no effect	w	9
CARBARYL	1196 ppm carbaryl application rate	TOX-EXP IND - biomarkers	plasma cholinesterase activity	decreased at 1196 ppm carbaryl	x	1
CARBOFURAN	22.0-91.0 ppm, wet wt, measured on rice grains	TOX-MORT - mortality in the field	carcass count in a treated rice field	4	y	10
CESIUM COMPOUNDS	0.56 (0.065 SE) Bq/g, wet wt, ingesta	TOX-EXP IND - accumulation	whole body and muscle concentrations of ¹³⁷ Cesium	0.24 (0.027 SE) Bq/g, wet weight (whole body) 0.30 (0.036 SE) Bq/g, wet weight (muscle)	z	11
DDT (4,4')	1 lb/gal DDT application to nest applied at 0.4 ml/ft^2	TOX-REPRO - reproductive success		no effect	aa	12
DIELDRIN	NR	TOX-MORT - toxicity benchmarks	median lethal dosage	44-46 mg/kg	ab	3
ENDRIN	1.3-1.7 kg/ha	TOX-EXP IND - accumulation	tissue endrin residues	brain=greater than or equal to 0.8 ppm, wet wt	ac	13
LEAD (elemental)	two #8 lead shots	TOX-EXP IND - accumulation	lead concentration in bone	169.2 ug/g, dry wt.	ad	14
LEAD (elemental)	four #8 lead shots	TOX-EXP IND - accumulation	lead concentration in bone	198.2 ug/g, dry wt	ae	14
LEAD (elemental)	four #8 lead shots	TOX-EXP IND - accumulation	lead concentration in kidneys of treated birds	639.43 and 345.95 ug/g, dry wt	af	15
LEAD (elemental)	four #8 lead shots	TOX-EXP IND - accumulation	lead concentration in kidneys	1,297.57 ug/g, dry wt	ag	15
LEAD (elemental)	four #8 lead shots	TOX-EXP IND - accumulation	lead concentration in liver	178.81 ug/g, dry wt	ah	15
LEAD (elemental)	four #8 lead shots	TOX-EXP IND - accumulation	lead concentrations in livers of dosed birds	58.35 and 214.71 ug/g, dry wt	ai	15
LEAD (elemental)	0, 1, 2, or 4 #8 lead shots	TOX-EXP IND - accumulation	lead concentrations in blood	increased at all doses	aj	16
LEAD (elemental)	1#8 lead shot (70.0 +/- 0.5 mg)	TOX-EXP IND - accumulation	mean lead concentrations in femur (greater accumulation with mixed seed vs. pelleted diet)	65.4-123.2 ug/g, dry wt	ak	17
LEAD (elemental)	1#8 lead shot (70.0 +/- 0.5 mg)	TOX-EXP IND - accumulation	mean lead concentrations in liver (greater accumulation with mixed seed vs. pelleted diet)	2.80-4.98 ug/g, dry wt	al	17
LEAD (elemental)	1#8 lead shot (70.0 +/- 0.5 mg)	TOX-EXP IND - accumulation	mean lead concentrations in kidney (greater accumulation with mixed seed vs. pelleted diet)	47.2-190.7 ug/g, dry wt	am	17
LEAD (elemental)	one #8 lead shot	TOX-EXP IND - biomarkers	blood delta-aminolevulinic acid dehydratase activity	decreased	an	18
LEAD (elemental)	0, 1, 2, or 4 #8 lead shots	TOX-EXP IND - biomarkers	delta-aminolevulinic acid dehydratase (ALAD)activity in blood	decreased at all doses	ao	16

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Chemical	Tox Exposure	Endpoint Type	Endpoint Description	Endpoint Value	Note	Reference
LEAD (elemental)	0, 1, 2, or 4 #8 lead shots	TOX-MORT - dose-response data	mortality	increased at all doses	ap	14
LEAD (elemental)	0, 1 #8 lead shots	TOX-MORT - dose-response data	mortality	no effect	aq	14
LEAD (elemental)	0, 1, 2, or 4 #8 lead shots	TOX-MORT - dose-response data	mortality	increased at 1, 4 shots	ar	16
LEAD (elemental)	1#8 lead shot (70.0 +/- 0.5 mg)	TOX-MORT - dose-response data	mortality in dosed birds	no effect	as	17
LEAD (elemental)	one #8 lead shot	TOX-MORT - mortality in the field	post-dosing survival of free-ranging radio-transmittered birds	no effect	at	19
LEAD (elemental)	four #8 lead shots	TOX-Non-Repro-Sublethal - organ/system effects	histological exam for hemosiderin loading in liver	light to moderate lesions	au	15
LEAD (elemental)	four #8 lead shots	TOX-Non-Repro-Sublethal - organ/system effects	histological exam for hemosiderin loading in liver	high degree of lesions present	av	15
LEAD (elemental)	four #8 lead shots	TOX-Non-Repro-Sublethal - organ/system effects	histological exam of acid-fast intranuclear inclusions of cells of kidney proximal convoluted tubules	light lesions present	aw	15
LEAD (elemental)	four #8 lead shots	TOX-Non-Repro-Sublethal - organ/system effects	histological exam of acid-fast intranuclear inclusions of cells of kidney proximal convoluted tubules	high degree of lesions present	ax	15
LEAD (elemental)	1#8 lead shot (70.0 +/- 0.5 mg)	TOX-Non-Repro-Sublethal - whole animal	body weight	no effect	ay	17
LEAD (elemental)	0, 1 #8 lead shots	TOX-REPRO - development	body weight at hatch	no effect	az	14
LEAD (elemental)	0, 1 #8 lead shots	TOX-REPRO - physiology	female fertility or productivity, egg weight and size	no effect	ba	14
LEAD (elemental)	0, 1 #8 lead shots	TOX-REPRO - reproductive success	hatchability	decreased	bb	14
LINDANE	NR	TOX-MORT - toxicity benchmarks	approximate median lethal dosage	350-400 mg/kg	bc	3
METHiocarb	0, 100, 316, or 1,000 ppm in diet	TOX-Non-Repro-Sublethal - behavioral effects	food consumption	decreased at all doses	bd	20
METHiocarb	0, 100, 316, or 1,000 ppm in diet	TOX-Non-Repro-Sublethal - whole animal	body weight	decreased at 1,000 ppm	be	20
MEXACARBATE	NR	TOX-MORT - toxicity benchmarks	LD50	2.83 mg/kg	bf	21
PICLORAM; TRICLOPYR	38 l/ha application	TOX-Non-Repro-Sublethal - indirect effects	nesting success in treated plots	no effect	bg	22
TOXAPHENE (POLYCHLORINATED CAMPHENES)	NR	TOX-MORT - mortality in the field	approximate median lethal dosage	200-250 mg/kg	bh	3
TRICHLOROPHOXYACETIC ACID (2,4,5-)	0.72 kg/ha	TOX-Non-Repro-Sublethal - indirect effects	population density	increased post-application from 1 to 4.1 birds per 40 ha	bi	23

Notes

a Nestling; WI; B; Species - California (R)=*Zenaida macroura*; TOX - Chemical=30560-19-1; TOX - Chemical=63-25-2; TOX - Chemical=333-41-5; N=37 nests; May-August; Winnebago, Outagamie, Calumet Counties; Tox Exp Tech=field application; Tox Exp Dur=NR; Tox Study Dur=NR; Tox Stat Sig=N

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- b Both Adult and Juv.; WI; B; Species - California (R)=*Zenaida macroura*; TOX - Chemical=30560-19-1; TOX - Chemical=63-25-2; TOX - Chemical=333-41-5; N=37 nests; May-August; Winnebago, Outagamie, Calumet Counties; Tox Exp Tech=field application; Tox Exp Dur=NR; Tox Study Dur=NR; Tox Stat Sig=NR
- c Adult; Adult; Lab; NR; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=116-06-3; TOX - Dose-Response Data Format=DR Table; N=9-12/group; January; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=7 d; Tox Stat Sig=N; acute mortality removed from analysis
- d Adult; Lab; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=116-06-3; TOX - Dose-Response Data Format=DR Figure; N=50 birds total; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=NR; Tox Stat Sig=Y; conducted using wild, penned birds
- e NR; Lab; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=309-00-2; N=21 birds; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=NR; Tox Stat Sig=NR
- f NR; TX; NR; Species - California (R)=*Bubo virginianus*; Species - California (R)=*Zenaida macroura*; TOX - Chemical=60-57-1; N=1 bird; Tox Exp Tech=pesticide application; Tox Exp Dur=NR; Tox Study Dur=NR; Tox Stat Sig=NR; See citation for other species and contaminants measured.
- g NR; TX; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=309-00-2; TOX - Chemical=60-57-1; N=1 bird; Tox Exp Tech=pesticide application; Tox Exp Dur=NR; Tox Study Dur=NR; Tox Stat Sig=NR; See citation for other species and contaminants measured.
- h Adult; Lab; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=504-24-5; N=6/group; Tox Exp Tech=diet; Tox Exp Dur=30 d; Tox Study Dur=30 d; Tox Stat Sig=NR
- i Adult; Lab; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=504-24-5; N=7/group; Tox Exp Tech=diet; Tox Exp Dur=7 d; Tox Study Dur=7 d; Tox Stat Sig=NR
- j Adult; Lab; M; Species - California (R)=*Zenaida macroura*; TOX - Chemical=11097-69-1; TOX - Dose-Response Data Format=DR Table; N=4/group; Tox Exp Tech=diet; Tox Exp Dur=42 d; Tox Study Dur=56 d; Tox Stat Sig=Y
- k Adult; Lab; M; Species - California (R)=*Zenaida macroura*; TOX - Chemical=11097-69-1; N=10/group; Tox Exp Tech=diet; Tox Exp Dur=42 d; Tox Study Dur=56 d; Tox Stat Sig=N
- l Adult; Lab; M; Species - California (R)=*Zenaida macroura*; TOX - Chemical=11097-69-1; TOX - Dose-Response Data Format=DR Figure; N=4/group; Tox Exp Tech=diet; Tox Exp Dur=42 d; Tox Study Dur=56 d; Tox Stat Sig=N
- m Adult; Lab; B; Species - California (R)=*Zenaida macroura*; TOX - Chemical=11097-69-1; TOX - Dose-Response Data Format=DR Table; N=8/group; Condition=breeding; Tox Exp Tech=diet; Tox Exp Dur=42 d; Tox Study Dur=86 d; Tox Stat Sig=Y
- n Adult; Lab; F; Species - California (R)=*Zenaida macroura*; TOX - Chemical=11097-69-1; N=10-13/group; Tox Exp Tech=diet; Tox Exp Dur=28 d; Tox Study Dur=28 d; Tox Stat Sig=Y
- o Adult; Lab; B; Species - California (R)=*Zenaida macroura*; TOX - Chemical=11097-69-1; TOX - Dose-Response Data Format=DR Table; N=8/group; Condition=breeding; Tox Exp Tech=diet; Tox Exp Dur=42 d; Tox Study Dur=86 d; Tox Stat Sig=Y
- p Adult; Lab; B; Species - California (R)=*Zenaida macroura*; TOX - Chemical=11097-69-1; TOX - Dose-Response Data Format=DR Table; N=8/group; Condition=breeding; Tox Exp Tech=diet; Tox Exp Dur=42 d; Tox Study Dur=86 d; Tox Stat Sig=Y
- q Adult; Lab; B; Species - California (R)=*Zenaida macroura*; TOX - Chemical=11097-69-1; TOX - Dose-Response Data Format=DR Table; N=8/group; Condition=breeding; Tox Exp Tech=diet; Tox Exp Dur=42 d; Tox Study Dur=86 d; Tox Stat Sig=Y; zero pairs nested at 40 ppm
- r Adult; Lab; F; Species - California (R)=*Zenaida macroura*; TOX - Chemical=11097-69-1; N=10-13/group; Tox Exp Tech=diet; Tox Exp Dur=28 d; Tox Study Dur=28 d; Tox Stat Sig=NR
- s Adult; Lab; F; Species - California (R)=*Zenaida macroura*; TOX - Chemical=11097-69-1; TOX - Dose-Response Data Format=DR Figure; N=10-13/group; Tox Exp Tech=diet; Tox Exp Dur=28 d; Tox Study Dur=28 d; Tox Stat Sig=N
- t Adult; Lab; F; Species - California (R)=*Zenaida macroura*; TOX - Chemical=11097-69-1; N=10-13/group; Tox Exp Tech=diet; Tox Exp Dur=28 d; Tox Study Dur=28 d; Tox Stat Sig=NR
- u Nestling; PA; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=86-50-0; TOX - Chemical=60-51-5; TOX - Chemical=115-29-7; TOX - Chemical=298-00-0; TOX - Chemical=56-38-2; TOX - Chemical=52645-53-1; TOX - Chemical=137-26-8; TOX - Chemical=137-30-4; N=29 conventional nests; April-August; York Springs, Adams Co.; Tox Exp Tech=field application; Tox Exp Dur=breeding period; Tox Study Dur=NR; Tox Stat Sig=Y
- v Nestling; PA; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=86-50-0; TOX - Chemical=60-51-5; TOX - Chemical=115-29-7; TOX - Chemical=298-00-0; TOX - Chemical=56-38-2; TOX - Chemical=52645-53-1; TOX - Chemical=137-26-8; TOX - Chemical=137-30-4; N=29 conventional nests; April-August; York Springs, Adams Co.; Tox Exp Tech=field application; Tox Exp Dur=breeding period; Tox Study Dur=NR; Tox Stat Sig=Y
- w Both Adul and Juv.; PA; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=86-50-0; TOX - Chemical=60-51-5; TOX - Chemical=115-29-7; TOX - Chemical=298-00-0; TOX - Chemical=56-38-2; TOX - Chemical=52645-53-1; TOX - Chemical=137-26-8; TOX - Chemical=137-30-4; N=29 conventional nests; April-August; York Springs, Adams Co.; Tox Exp Tech=field application; Tox Exp Dur=breeding period; Tox Study Dur=NR; Tox Stat Sig=N
- x Nestling; WI; B; Species - California (R)=*Zenaida macroura*; TOX - Chemical=63-25-2; N=37 nests; May-August; Winnebago, Outagamie, Calumet Counties; Tox Exp Tech=field application; Tox Exp Dur=NR; Tox Study Dur=NR; Tox Stat Sig=Y
- y NR; TX; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=1563-66-2; N=NR; April; Lavaca Bay area; Tox Exp Tech=diet; Tox Exp Dur=NR; Tox Study Dur=NR; Tox Stat Sig=NR
- z Both Adult and Juv.; SC; B; Species - California (R)=*Zenaida macroura*; TOX - Chemical=CESIUM COMPOUNDS; N=27 doves; November-December; Par Pond reservoir system, Savannah River Site; Tox Exp Tech=diet (via site contamination); Tox Exp Dur=NR; Tox Study Dur=3 yr; Tox Stat Sig=NR; Radio cesium levels dropped by 78% (whole body) and 73% (muscle) over the following three years (see citation for data). No sex or age-class differences in cesium levels were found.
- aa Embryo; MD; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=50-29-3; N=2 eggs; Patuxent Research Refuge; Tox Exp Tech=egg surface; Tox Exp Dur=single; Tox Study Dur=NR; Tox Stat Sig=NR
- ab NR; Lab; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=60-57-1; N=20 birds; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=NR; Tox Stat Sig=NR
- ac NR; WA; NR; Species - California (R)=*Bubo virginianus*; Species - California (R)=*Zenaida macroura*; Species - California (R)=*Colaptes auratus*; TOX - Chemical=72-20-8; N=1-3 animals; Wenatchee; Tox Exp Tech=pesticide application (late fall); Tox Exp Dur=NR; Tox Study Dur=approx. 10 mo.; Tox Stat Sig=NR; Sample was taken from individual in which cause of death was diagnosed as endrin poisoning (0.8 ppm was assumed to be a lethal concentration for brain).
- ad Adult; Lab; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=7439-92-1; TOX - Dose-Response Data Format=DR Table; N=10 birds; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=1 month; Tox Stat Sig=Y; see paper for liver and kidney levels
- ae Adult; Lab; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=7439-92-1; TOX - Dose-Response Data Format=DR Table; N=10 birds; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=1 month; Tox Stat Sig=Y; see paper for liver and kidney levels
- af NR; Lab; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=7439-92-1; N=2; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=four days; Tox Stat Sig=NR
- ag NR; Lab; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=7439-92-1; N=1; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=nine days; Tox Stat Sig=NR
- ah NR; Lab; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=7439-92-1; N=1; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=nine days; Tox Stat Sig=NR
- ai NR; Lab; NR; Species - California (R)=*Zenaida macroura*; TOX - Chemical=7439-92-1; N=2; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=four days; Tox Stat Sig=NR
- aj Adult; Lab; B; Species - California (R)=*Zenaida macroura*; TOX - Chemical=7439-92-1; TOX - Dose-Response Data Format=DR Figure; N=10 birds/dose; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=28 d; Tox Stat Sig=NR
- ak Adult; Lab; F; Species - California (R)=*Zenaida macroura*; TOX - Chemical=7439-92-1; N=12/group; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=3 wks; Tox Stat Sig=Y

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al	Adult; Lab; F; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; N=12/group; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=3 wks; Tox Stat Sig=Y
am	Adult; Lab; F; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; N=12/group; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=3 wks; Tox Stat Sig=Y
an	NR; Lab; NR; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; TOX - Dose-Response Data Format=DR Figure; N=5 birds; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=24 hrs; Tox Stat Sig=Y; activity decreased with increasing liver lead concentrations
ao	Adult; Lab; B; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; TOX - Dose-Response Data Format=DR Figure; N=10 birds/dose; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=28 d; Tox Stat Sig=Y; significant negative correlation between ALAD and lead concentration in blood
ap	Adult; Lab; NR; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; TOX - Dose-Response Data Format=DR Table; N=25 birds/dose; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=1 month; Tox Stat Sig=Y; birds died between 2 and 11 days post-dose
aq	Adult; Lab; F; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; TOX - Dose-Response Data Format=DR Table; N=25 birds/dose; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=through reproduction; Tox Stat Sig=N
ar	Adult; Lab; B; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; N=10 birds/dose; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=28 d; Tox Stat Sig=NR
as	Adult; Lab; F; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; N=12/group; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=3 wks; Tox Stat Sig=N
at	Both Adult and Juv.; AL; NR; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; N=26 treated birds, 29 control birds; August-November; Tox Exp Dur=single; Tox Study Dur=21 days; Tox Stat Sig=N
au	NR; Lab; NR; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; N=2; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=four days; Tox Stat Sig=NR
av	NR; Lab; NR; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; N=1; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=nine days; Tox Stat Sig=NR
aw	NR; Lab; NR; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; N=2; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=four days; Tox Stat Sig=NR
ax	NR; Lab; NR; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; N=1; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=nine days; Tox Stat Sig=NR
ay	Adult; Lab; F; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; N=12/group; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=3 wks; Tox Stat Sig=N
az	Hatching; Lab; NR; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; TOX - Dose-Response Data Format=DR Table; N=25 birds/dose; Tox Exp Tech=oral (parent); Tox Exp Dur=single; Tox Study Dur=through reproduction; Tox Stat Sig=N
ba	Adult; Lab; F; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; TOX - Dose-Response Data Format=DR Table; N=25 birds/dose; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=through reproduction; Tox Stat Sig=N
bb	Hatching; Lab; NR; Species - California (R)=Zenaida macroura; TOX - Chemical=7439-92-1; TOX - Dose-Response Data Format=DR Table; N=25 birds/dose; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=through reproduction; Tox Stat Sig=Y
bc	NR; Lab; NR; Species - California (R)=Zenaida macroura; TOX - Chemical=58-89-9; N=21 birds; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=NR; Tox Stat Sig=NR
bd	NR; Lab; NR; Species - California (R)=Zenaida macroura; TOX - Chemical=2032-65-7; TOX - Dose-Response Data Format=DR Table; N=6/group; Tox Exp Tech=diet; Tox Exp Dur=30 d; Tox Study Dur=30 d; Tox Stat Sig=Y
be	NR; Lab; NR; Species - California (R)=Zenaida macroura; TOX - Chemical=2032-65-7; TOX - Dose-Response Data Format=DR Table; N=6/group; Tox Exp Tech=diet; Tox Exp Dur=30 d; Tox Study Dur=30 d; Tox Stat Sig=Y
bf	NR; Lab; B; Species - California (R)=Zenaida macroura; TOX - Chemical=315-18-4; N=8; Age=3 mo; Tox Exp Tech=gavage; Tox Exp Dur=single; Tox Study Dur=14 d; Tox Stat Sig=NR
bg	Adult; TX; B; Species - California (R)=Zenaida macroura; TOX - Chemical=1918-02-1; TOX - Chemical=55335-06-3; N=NR; May-August; Rob and Bessie Welder Wildlife Refuge; Tox Exp Tech=field application; Tox Exp Dur=NR; Tox Study Dur=2 yr; Tox Stat Sig=N; potential effects were due to habitat alteration
bh	NR; Lab; NR; Species - California (R)=Zenaida macroura; TOX - Chemical=8001-35-2; N=8 birds; Tox Exp Tech=oral; Tox Exp Dur=single; Tox Study Dur=NR; Tox Stat Sig=NR
bi	Adult; Nevada; CA; Species - California (R)=Zenaida macroura; TOX - Chemical=93-76-5; N=9 censuses pre- and post-spray; summer; Truckee area; Tox Exp Tech=field application; Tox Exp Dur=NR; Tox Study Dur=4 yr; Tox Stat Sig=NR; effects due to vegetation removal by herbicide

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